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10/812,568	03/30/2004	Rahul Gupta	12406-155001 / P2004.0388	3687
26181 7590 03/02/2009 FISH & RICHARDSON P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022				
EXAMINER GARRETT, DAWN L				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
03/02/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

# Office Action Summary

Application No.

10/812,568

Examiner

Dawn Garrett

Applicant(s)

GUPTA ET AL.

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2008.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 6, 7, 9-22, 25, 26, 28-49 and 52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 and 28-49 is/are allowed.
- 6) ☒ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 52 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. This Office action is responsive to the amendment received December 10, 2008. Claim 52 was newly added. Claims 3, 5, 8, 23, 24, 27, 50, and 51 are cancelled. Claims 1, 2, 4, 6, 7, 9-22, 25, 26, 28-49 and 52 are pending.
2. The rejection of claims 1, 2, 4, 6, 7, 9-11, 14-22, 25, 26, 28-30, 32-43, and 45-49 under 35 U.S.C. 103(a) as being unpatentable over Okunaka et al. (US 2002/0106529 A1) is withdrawn. Applicant's remarks filed December 10, 2008 were found persuasive.
3. The rejection of claims 12, 13, 31 and 44 under 35 U.S.C. 103(a) as being unpatentable over Okunaka et al. (US 2002/0106529 A1) in view of D'Andrade et al. (US 2002/0197511) is withdrawn.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4, 6, 7, 9-12, 14-22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okunaka et al. (US 2002/0106529 A1) in view of Roitman et al. (US 6,111,356).

Okunaka et al. teaches organic electroluminescent devices comprising high-molecular compounds having a cross-linking group (see abstract). Components of the units involved in crosslinking include groups such as an ester group per the claim 1 requirement for a crosslinking agent (see par. 114). Per claim 1, the binder polymer contained in the photoemission layer may comprise a crosslinkable group (see par. 112). Also, cross-linked polymers are taught to include polyvinyl carbazole type (hole transporting), polyalkylfluorene type (emitting), polytriphenylamine type (hole transporting), triazole type (electron transporting), and oxathiazole type with each having a photosensitive groups for crosslinking (see par. 115). The teachings of Okunaka et al. provide for light emitting or electron transporting polymers to be crosslinked. The portion with a photosensitive group reads upon the crosslinking agent and respective functionalities are provided by the agent. Hole transporting and electron transporting layers are also taught with regard to claim 1 (see par. 120). The cathode electrode layer is provided (see par. 137) per instant claim 12.

With regard to claims 4, 16, 17, and 20, a hole transporting layer (taught at par. 120) inherently provides a function of electron blocking and an electron transporting layer (taught at par. 120) inherently provides a function of hole blocking. Additionally, separate hole block layers are taught (see par. 150).

With regard to claim 7, the materials having a photosensitive group are considered to be initiating agents (see par. 115).

With regard to claim 9, OLED devices are formed (see par. 156).

With regard to claims 10 and 25, an electrode (anode) is formed (see par. 164).

With regard to claims 11 and 15, light is emitted by the photoemission layer(s) (see examples).

With regard to claim 14, a thin film transistor is included (see par. 163).

With regard to claims 18 and 21, a hole transporting layer is taught (see par. 120). The hole transporting layer is considered to be capable of performing a wave-guiding function, since wavelengths of light may pass through the layer, absent evidence otherwise. Where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristics relied on (see *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971)).

With regard to claim 22, the organic electron transporting layer is considered to provide an electron injecting function (see par. 149 and 154).

Although Okunaka et al. does not appear to show an example comprising all of the features of the claims within one example embodiment, it would have been obvious to have formed a device comprising all of the required components, because Okunaka et al. teaches all of the required components and one would expect a device comprising these features to form an efficient OLED as desired by Okunaka et al.

Okunaka et al. does not expressly teach the inclusion of an organic electron injecting layer between the electron transporting layer and cathode per claim 1. Roitman et al. teaches in analogous art that organic layers are chosen for a device to provide charge injection and transportation from both electrodes to the light emitting layer. Roitman et al. further teaches

there may be two electron injection and transporting layers between the cathode and the EL (see col. 1, lines 19-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to have formed two electron injection and transporting layers as taught by Roitman et al. for the Okunaka et al. device (one corresponding to the instant electron transporting layer and one to the instant electron injecting layer), because one would expect two electron transporting and injecting layers to be similarly beneficial to the Okunaka et al. in providing electron injecting and transportation effectively through the device.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okunaka et al. (US 2002/0106529 A1) in view of Roitman et al. (US 6,111,356) and in further view of D'Andrade et al. (US 2002/0197511). Okunaka and Roitman are relied upon as set forth above.

Okunaka et al. teaches an anode and hole transporting layer, but does not specifically teach PEDOT:PSS per claim 13. D'Andrade et al. teaches in analogous art that providing a layer of PEDOT:PSS adjacent the anode provides effective promotion of the injection of holes from the anode. It would have been obvious to one of ordinary skill in the art to have included a PEDOT:PSS layer in the Okunaka et al. device, because one would expect the similar benefit of effective injection of holes in the device.

*Allowable Subject Matter*

7. Claims 26 and 28-49 are allowed. Applicant's arguments filed December 10, 2008 with regard to independent claim 26 and the closest prior art, Okunaka et al., was found persuasive. Claim 52 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dawn Garrett/  
Primary Examiner, Art Unit 1794